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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,390	02/20/2004	Otman Adam Basir	60,449-095	6422

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EXAMINER	
TO, TUAN C	

ART UNIT	PAPER NUMBER
3663	

DATE MAILED: 05/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/783,390	BASIR ET AL.	
	Examiner	Art Unit	
	Tuan C. To	3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) *15-24* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14 and 25-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01/09/2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Applicant's election without traverse of Group I (claims 1-14, and 25-31) in the reply filed on 03/20/2006 is acknowledged.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-14, and 25-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Owechko et al. and in view of Tsai (US 20020076088A1).

With respect to claim 1, Owechko et al. teach a system/method for classifying an occupant (see Owechko et al, abstract), including the image sensor (Owechko et al, column 2, lines 39-58) for capturing an image of an occupant area, and means for classifying the an occupant in the occupant area based on feature data (Owechko et al, column 2, lines 59-67, column 3, lines 1-24).

Owechko et al. do not disclose the following: "dividing the image into a plurality of subimages of different predetermined spatial regions, generating a spatial feature matrix of the image based upon the plurality of subimages, and analyzing the spatial feature matrix".

The secondary reference to Tsai has been cited to overcome the missing features from Owechko et al. by directing to a system and method of multi-level facial image recognition, including the acts of: dividing the image into a plurality of subimages of different predetermined spatial regions (Tsai, abstract; figure 1), generating a spatial feature matrix of the image based upon a plurality of subimages (Tsai, figures 6 and 7), and analyzing the spatial feature matrix (Tsai, figure 7).

Hence, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Owechko et al. to include the teachings as taught by Tsai to gain the advantage therefore (ie, properly deploying the safety airbag system according to the size of the occupant on the seat, avoiding the injury to a child that may be caused by the deployment of safety devices).

With regard to claim 2, Owechko et al. teach that the image features is derived from image edges, motion, and range are used (Owechko et al, abstract).

With regard to claim 3, Tsai teaches the act of "smoothing the classification of the occupant overtime" (Tsai, filter shown in figure 3 for smoothing the classification of the occupant overtime).

With regard to claim 4, Owechko et al. teach that determining whether to activate an active restrain based upon the classification of an occupant (Owechko et al, abstract).

With regard to claim 5, Tsai discloses the following: "applying expert classifier algorithm to the spatial feature matrix" (Tsai, figure 5).

With regard to claim 6, Owechko et al. teach the image sensor (Owechko et al, column 2, lines 39-58) captures a plurality of images of known occupant classifications of the occupant area (see figure 10).

With regard to claim 7, Tsaid teaches "analyzing the spatial feature matrix based upon the classification of an occupant" (Tsai, figure 7).

With regard to claim 8, Owechko et al. disclose the following: "the expert classifier algorithm includes a neural network" (Owechko et al, figure 1, classifiers 135, 145, and 155).

With regard to claims 9 and 10, Owechko et al. teach that the image features is derived based on the edges, motion, and range (Owechko et al., abstract; figure 10).

With regard to claim 11, Owechko et al. disclose that "physical data representing a physical orientation and location of the occupant area" (Owechko et al, figure 10).

With regard to claims 12 and 13, Owechko et al. teach that the image of occupant is detected by the image sensor. A plurality of features of images are

captured, then these features are processed by the classification algorithm to product class confidences.

With regard to claim 14, Owechko et al. teach the following: "the plurality of subimages overlap one another" (Owechko et al., figure 1, column 4, lines 41-62).

With respect to claim 25, Owechko et al. teach a system/method for classifying an occupant (see Owechko et al, abstract), including the image sensor (Owechko et al, column 2, lines 39-58) for capturing an image of an occupant area, and means for classifying the an occupant in the occupant area based on feature data (Owechko et al, column 2, lines 59-67, column 3, lines 1-24).

Owechko et al. do not disclose the following: "dividing the image into a plurality of subimages of predetermined spatial regions, generating a plurality of low-level descriptors from each of the plurality of subimages".

The secondary reference to Tsai has been cited to overcome the missing features from Owechko et al. by directing to a system and method of multi-level facial image recognition, including the acts of: dividing the image into a plurality of subimages of predetermined spatial regions (Tsai, abstract; figure 1), generating a plurality of low-level descriptors based upon a plurality of subimages (Tsai, figures 6 and 7), and analyzing the low-level descriptors (Tsai, figure 7).

Hence, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Owechko et al. to include the teachings as taught by Tsai to gain the advantage therefore (ie, properly deploying the

safety airbag system according to the size of the occupant on the seat, avoiding the injury to a child that may be caused by the deployment of safety devices).

With regard to claim 26, Owechko et al. teach the image sensor (Owechko et al, column 2, lines 39-58) captures a plurality of images of known occupant classifications of the occupant area (see figure 10).

With regard to claim 27, Tsaid teaches "analyzing the spatial feature matrix based upon the classification of an occupant" (Tsai, figure 7).

With regard to claim 28, Owechko et al. disclose the following: "the expert classifier algorithm includes a neural network" (Owechko et al, figure 1, classifiers 135, 145, and 155).

With regard to claim 29, Owechko et al. teach that the image features is derived based on the edges, motion, and range (Owechko et al., abstract; figure 10).

With regard to claim 30, Owechko et al. teach that the image features is derived based on the edges, motion, and range (Owechko et al., abstract; figure 10).

With regard to claim 31, Owechko et al. disclose that "physical data representing a physical orientation and location of the occupant area" (Owechko et al, figure 10).

Response to Applicant's Arguments

As clearly represented herein above, Tsai reference is provided to overcome the missing features from Owechko by teaching dividing the image into a plurality of subimages of different predetermined spatial regions, generating a spatial feature matrix of the image based upon the plurality of subimages". The original input image as shown in step S11 (see figure 1) is decomposed in a plurality of subimages of different

predetermined spatial regions (64x64, 32x32, and 16x16). Tsai further teaches "generating a spatial feature matrix of the image based upon a plurality of subimages (Tsai, figures 6 and 7), and "analyzing the spatial feature matrix" (Tsai, figure 7).

According to that reason, the applicant's amendment to claims 1 and 25 do not place the application in a condition of allowance.

Conclusions

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan C To whose telephone number is (571) 272-6985. The examiner can normally be reached on from 8:00AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/tc

May 10, 2006

MATTHEW LUU
PRIMARY EXAMINER